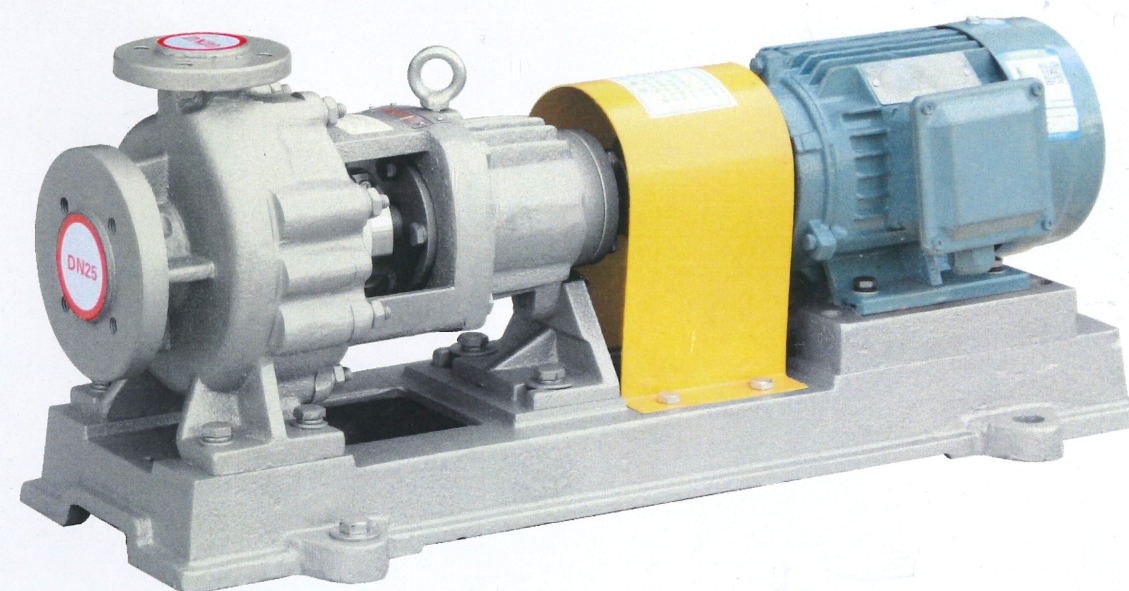




FLUOROPLASTIC CENTRIFUGAL PUMP Operating Instructions



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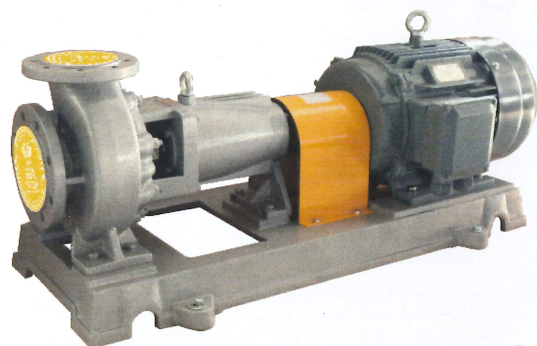
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GUANGDONG TAIFENG PUMPS INDUSTRY CO.,LTD

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Fluorine plastic centrifugal pump operation manual



We mentioned
According to the international standard design, the flow parts are all tightly lined with fluorine plastic, the bearing part of the pump is metal material. Equipped with external bellows mechanical seal, grinding material: alumina VS ptfе, silicon carbide VS ptfе, cemented carbide VS cemented

carbide, users can choose their own grinding surface according to requirements. With the way
Suitable for conveying strong corrosive liquid, such as hydrochloric acid, nitric acid, organic solvent.

HEIGHT CALCULATION

Pump power usually refers to the input power of the pump, that is, the prime mover to the pump power, because it is transmitted to the pump through the pump shaft, so we also call the shaft power, with N.

In addition to the input power, there is output power, output power refers to the effective power transferred to it by the pump when the liquid passes through the pump, that is, the effective energy obtained in the pump by the liquid transmitted from the pump in unit time, also known as water power, expressed by Ne.

$$N_e = \rho \times g \times Q \times H$$

N_e = Shaft power (W)

ρ = liquid density (m³/kg)

g = acceleration of gravity (m/s)

Q = flow after (m³/h)

H = head (m)

Input power and output power are not equal, because there is a power loss in the pump, the size of the loss is often measured by the efficiency of the pump. The efficiency of a pump is expressed by the η. The efficiency of a pump is the ratio of the output power of the pump to the input power, i.e

$$\eta = \frac{N_e}{N}$$

INSTALLATION HEIGHT CALCULATION

Users in the selection of our pump, should consider the pump installation height, that is, the vertical distance from the suction surface to the pump shaft is less than the pump specified installation height, pump specified installation height according to the following formula:

H_s ≤ H_a or less - the H_v - ΔH_s - (NPSH)_r

H_s - Specified installation height of water Pump (m)

H_a - Use atmospheric head under field conditions

H_v - Vaporization pressure head at pumping liquid temperature (m)

ΔH_s - Suction line loss head (m)

NPSH - The required cavitation residue given on the performance parameter list Value (m)

PARTS DISASSEMBLY DRAWING

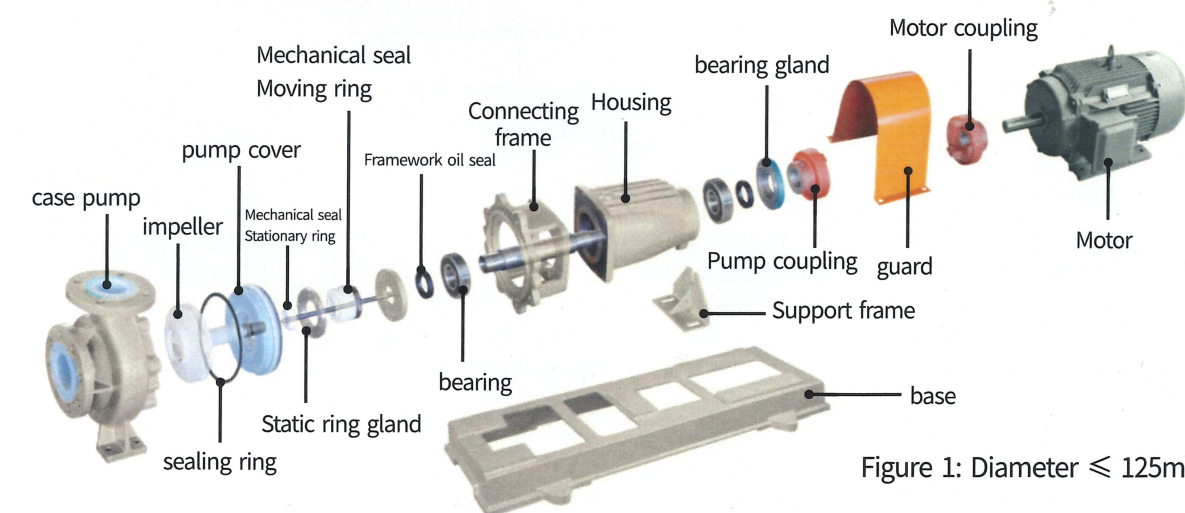


Figure 1: Diameter ≤ 125mm

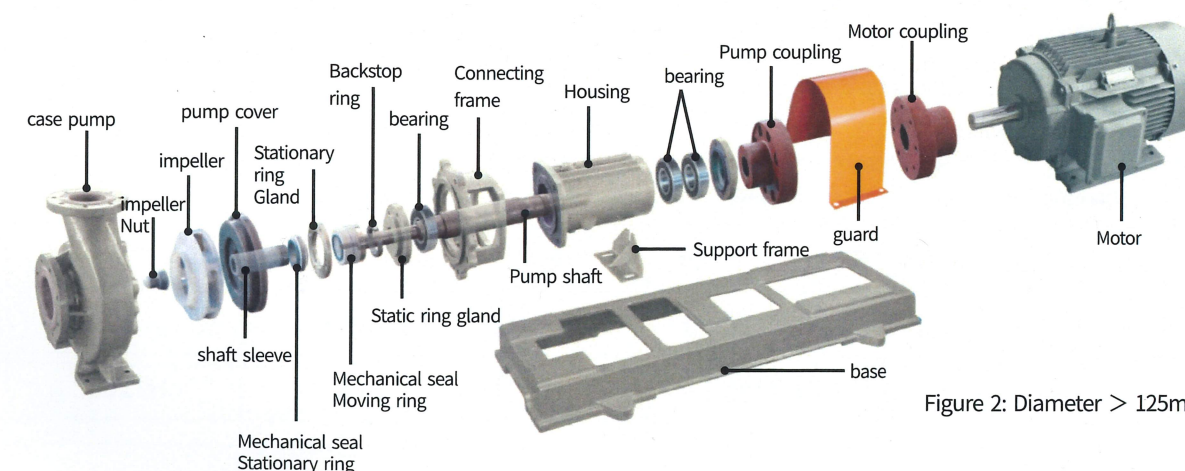


Figure 2: Diameter > 125mm

MATERIAL DIAGRAM

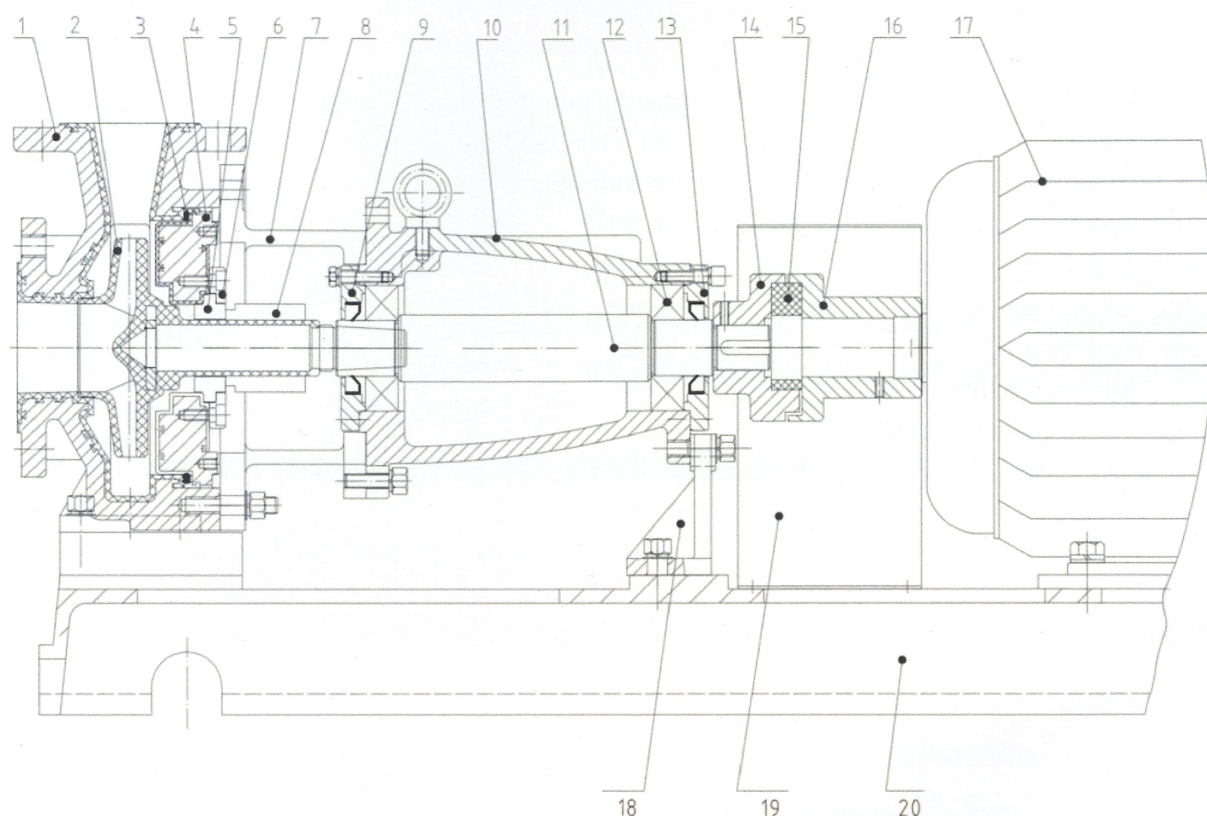


Figure 1 is applicable to models with diameters below 125mm (including 125mm)

N0.	name	material quality	N0.	name	material quality
1	Pump casing	HT200/FEP	11	Pump shaft	45#steel
2	impeller	FEP/45#steel	12	bearing	2RS Grease lubricated type
3	Sealing ring	VITON	13	Rear axle pressure cap	HT200
4	Pump cover	HT200/FEP	14	Pump coupling	HT200
5	Mechanical seal static ring	SIC	15	Elastic block	polyurethane
6	Static ring gland	304	16	Motor coupling	HT200
7	Connecting frame	HT200	17	electrical machinery	B3-2
8	Mechanical seal moving ring	SIC, carbon fibre	18	Support frame	HT200
9	Front axle pressure cap	HT200	19	Protective cover	A3
10	Bearing box	HT200	20	base	HT200

MATERIAL DIAGRAM

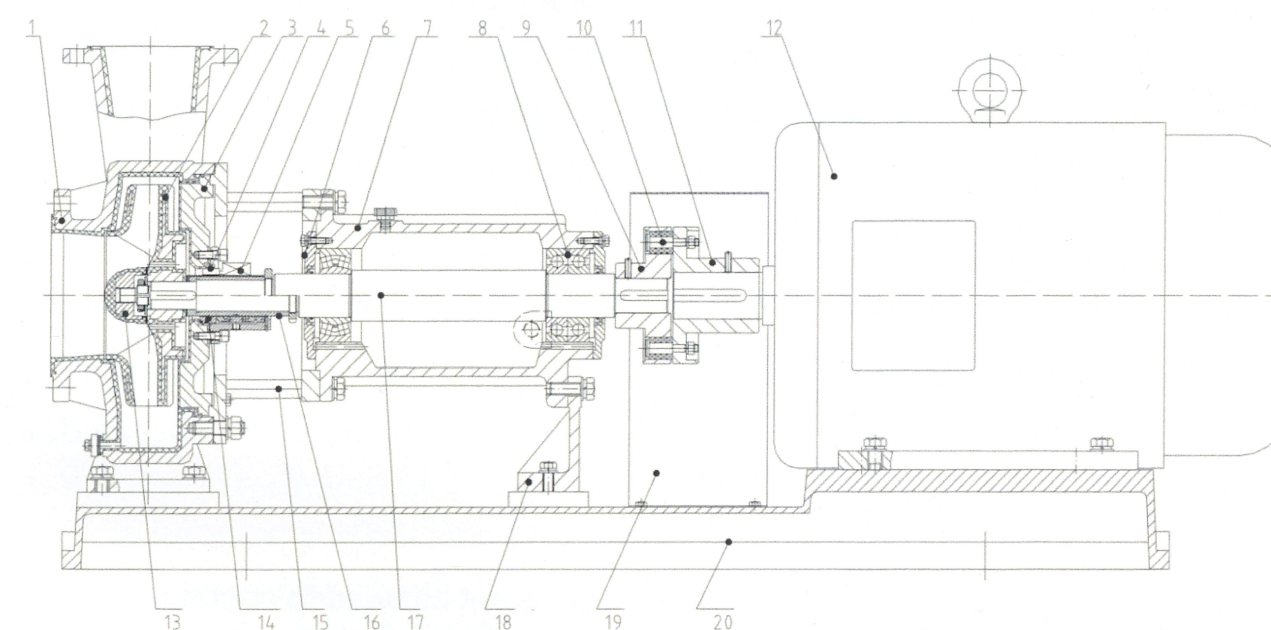


Figure 2 is applicable to models with a diameter of 125mm and above

N0.	name	material quality	N0.	name	material quality
1	Pump casing	HT200/FEP	11	Motor coupling	45#steel
2	impeller	FEP/45#steel	12	electrical machinery	B3-4
3	Pump cover	HT200/FEP	13	Impeller nut	45#steel/FEP
4	Mechanical seal static ring	SIC	14	Double end face machine seal	Optional
5	Mechanical seal moving ring	SIC/carbon fibre	15	Connecting frame	HT200
6	bearing cover	HT200	16	Shaft sleeve	45#steel/FEP
7	Bearing box	HT200	17	Pump shaft	2C-13
8	bearing	lube	18	Support frame	HT200
9	Pump shaft and shaft device	45#steel	19	Protective cover	A3
10	Elastic pin	polyurethane	20	base	HT200

TECHNICAL CHARACTERISTICS

Mechanical seal: moving ring: the use of ptfе filled carbon fiber material, or according to the transmission medium of different configuration of ceramic, silicon carbide, non-pressure sintered silicon carbide, etc..

Static ring: silicon carbide, ceramic, non - pressing sintered silicon carbide, etc.

Impeller: the impeller is molded as a whole, and the fluorine plastic is wrapped with steel inserts to ensure the strength of the impeller.

Bearing: bearing adopts 2RS double groove ball grease lubrication type, no need to fill oil later.

USE ATTENTION

1. The medium of oxygen lined centrifugal pump is not allowed to contain ferromagnetic impurities and hard impurities. If there are ferromagnetic particles, add a magnetic filter. And it is not suitable to produce a large number of crystal medium after the transportation stop.
2. chlorine lined centrifugal pump is not allowed to work under the rated flow of less than 30%.
3. For liquids with conveying medium density greater than 1200kg/m^3 , the sales department of our company shall be informed that the motor power shall be appropriately increased.
4. The maximum working pressure of mechanical seal is 1.0mpa. If the pressure exceeds this, mechanical seal thrust ring needs to be configured.
5. prevent static damage: transport of low conductivity of liquid, such as ultra-pure water or fluorine inert liquid, will produce static electricity in the pump, which will cause discharge and pump damage, should take anti-static generation, electrostatic or other measures. (Please consult our technical department for details)
6. special medium selection of special grinding parts, such as hydrofluoric acid select non-pressure sintering silicon carbide, nitric acid select ceramic or silicon carbide, etc

INSTALLATION INSTRUCTIONS

1. Build the concrete foundation according to the size, and embed the anchor bolts in advance.
2. before installation should be carefully checked pump group equipment, each part should be intact, no sundries in the pump cavity.
3. Put the pump unit on the foundation, put a pair of wedge pads between the bottom plate and the foundation, and find the level by adjusting the wedge pad.
4. The inlet and outlet pipelines of the pump should be supported by additional supports.
5. after installation, turn the coupling by hand, check whether there is any rubbing, channeling and other phenomena, rotate easily and freely.
6. In order to prevent debris from entering the pump, it is recommended to set a filter at the inlet, and the filter area should be 2-3 times larger than the cross-sectional area of the pipeline.
7. the pump with high head should be installed in the outlet pipeline check valve, to prevent sudden shutdown caused damage.
8. It is necessary to ensure that the installation height of the pump conforms to the pump's NPSH, and consider the loss of the pipeline and the temperature of the medium.

IS UP AND RUNNING

1. before opening the equipment, the pump cavity should be filled with liquid to be transported (such as the pump in the suction situation), close the outlet valve, connected to the power supply.
2. switch on the power supply, according to the direction of the sign to check whether the pump steering is correct.
3. pump unit test run 5-10 minutes, if no abnormal phenomenon can be put into operation.
4. stop, should be the first outlet valve closed, and then cut off the power supply.

EQUIPMENT TO REMOVE

1. when disassembling, first rinse the pump body with water until the corrosive medium in the pump shell is completely clean.
2. When replacing pump parts, do not use sharp objects or hard objects to hit the pump parts. The removed parts should be put gently with the sealing surface facing up.

MAINTENANCE

1. Check the system and motor regularly and replace vulnerable parts.
2. When long-term shutdown is not needed, the inner flow channel of the pump should be cleaned and the power supply cut off, and the dust cover is covered.
3. according to the direction of the sign boot operation, no reverse and idling.

AFTER-SALES SERVICE

Provide spare parts:

we can quickly and reliably provide the wearing parts and spare parts needed in the production stage, to ensure that the production will not stop.

Equipment maintenance:

we will guide and help customers to equipment maintenance and maintenance, timely find weak links, careful management, to reduce or even avoid repair costs.

Timely service:

no matter the equipment downtime or problems, customers can contact our company at any time, we will make a quick response to serve you.

Technical support:

excellent service, dedicated and meticulous. We will provide customers with consulting, elite after-sales team, advanced service awareness, expert technical guidance, throughout the whole process of product design, selection, sales, use.

SIMPLE TROUBLESHOOTING

Fault description	Cause analysis	The solution
The device cannot extract the medium	1. the inlet pipe has air 2. There is air leakage in the inlet pipe 3. Insufficient liquid injection in the pump cavity 4. The inlet pipe is blocked by foreign bodies 5. The pump equipment is inconsistent with the marking 6. The suction height is too high	1. Refill the liquid or empty the gas 2. Check whether the inlet pipe is damaged 3. increase the injection liquid 4. Check the pipeline and clear the blocked foreign matter 5. adjust the pump equipment steering 6. properly reduce the installation height
Insufficient flow and head	1. Foreign bodies enter the pipeline or pump cavity 2. Motor speed is not enough 3. impeller damage	1. Clean up blocked foreign bodies 2. Check the motor and power supply line 3. Replace the impeller
Power is too large	1. the transmission medium proportion is too large 2. pump axis and motor axis error is large 3. There is mechanical friction	1. Reduce medium specific gravity or increase irrigation fluid pressure 2. Readjust the axis position of the two 3. udge where friction, maintenance
Vibration of pump equipment	1. pump axis and motor axis error is large 2. suction height is too large, produce cavitation 3. there is mechanical friction phenomenon	1. Readjust the axis position of the two 2. Lower the installation height 3. check where wear, repair

WEARING PARTS LIST

Name of vulnerable parts	instructions
The impeller	The wearing parts are mainly mechanical seals and auxiliary parts. The selection of mechanical seals of centrifugal pumps is very important, which can greatly improve the service life. Mechanical seal dry grinding, conveying high solid medium, high temperature, high pressure, installation is not in place will reduce the service life.
Mechanical seal	
Pump cover	
Machine sealing gland	
Tighten bolts	

SPECIAL PERFORMANCE SELECTION

Optional name	describe
Electrostatic conducting device	Prevent the sudden release of static electricity, which may cause fire or explosion.
Double end mechanical seal	It can withstand certain high temperature and medium with high solid content.
Heat preservation jacket	Heat preservation pump cavity to prevent damage to mechanical seal after crystallization.
High temperature resistant material	Suitable for use between 100°C and 160°C.
Motor protector	Motor overload, lack of phase, low load, etc., can instantly cut off the power supply.
Non-standard motor	Used for special occasions, special working conditions and special requirements.
Non - gb flange	Flange of any standard can be customized according to requirements.

If you have any other technical requirements, please contact our sales department.

COMPREHENSIVE SERVICE TO USERS

- 1.pre-sales service: to assist users in selection, with customer design.
2. after-sales service: product "three guarantees", "warranty" period of one year.
3. door-to-door service: according to user requirements, in the process of product installation, debugging and use of the fault, can send technical personnel to the site service (in the scope of service to charge a certain fee).
4. Provide spare parts at any time.